

A Study on the Impact of Psychological Counseling for Minor Medical Students in Clinical Teaching and Learning

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Abstract: *Objective:* To explore the impact of psychological counseling for underage medical students in clinical teaching. *Methods:* 24 of the 48 underage medical students who were interned in our hospital from March 2023 to February 2024 were randomly selected to adopt the teaching management method of one-on-one psychological guidance as the observation group; the remaining 24 adopted the traditional teaching management method as the control group. The observation of the effects of psychological detachment on various aspects of underage medical students allows the determination of whether psychological detachment impacts clinical teaching. *Results:* The observation group's theoretical examination scores, skill assessment scores, and departmental performance evaluation scale score excellence rate were higher than the control group's, with $P < 0.05$ being statistically significant. At the same time, the clinical teaching and teaching management ability of the hospital was also improved. *Conclusion:* Psychological guidance for underage medical students can not only improve the comprehensive quality of medical students but also improve the teaching level, which is conducive to improving the teaching effect, and it is a clinical teaching mode worth promoting.

Keywords: Psychological counseling; Underage medical students; Clinical teaching

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1. Introduction

In order to promote the high-quality development of modern vocational education and to further improve the internship work of students in vocational schools, the hospital has undertaken the clinical teaching of underage medical students from vocational high schools in the past five years. However, during the teaching process, it was found that the teaching effect of younger medical students from vocational high schools was significantly different from that of adult medical students from higher education institutions. The reasons for the poor clinical teaching effect of younger medical students were analyzed, and it was found that it was mainly related to the fact that younger medical students were still in the adolescent growth period. In order to scientifically evaluate the reasons affecting the clinical teaching effect of younger medical students, a research team was set up in the hospital to carry out personalized one-on-one psychological counseling on the specific manifestations of the

adolescent problems of younger medical students and to explore the influence of psychological counseling in clinical teaching, so as to promote the teaching as a new teaching mode.

2. The current situation of adolescent problems and solutions

2.1. The current situation of adolescent problems

With China's rapid economic and social development, contemporary youth in the overall improvement of living conditions at the same time, in the growth of success, physical and mental health, employment and entrepreneurship, social integration, marriage and dating, and other aspects of the face of new difficulties and problems. In particular, a large number of urban and rural youth from poor families, youth with disabilities, and rural youth moving between the city and the countryside, approximately tens of millions of rural left-behind children who are faced with a lot of difficult problems and are in urgent need of help ^[1].

2.2. Solutions to youth problems

According to the opinion in the field of serving the growth and development of youths in the "Opinions on Strengthening the Construction of Social Work Professionals in Youth Affairs," it is required that the youth problems should be solved as follows:

- (1) Ideological guidance: Providing counseling on ideological and moral education for young people, guiding them to actively practice the socialist core value system, and forming a correct view on the world and life values.
- (2) Habit formation: Provide youth with correct behavioral guidance and good habit training to help them form correct living, learning and behavioral habits.
- (3) Vocational guidance: Helping young people develop a correct sense of employment, providing employment information services and organizing employment skills training.
- (4) Marriage and love services: Guiding young people to establish a correct view of marriage and love, helping to solve ideological and emotional problems, and organizing and carrying out marriage and dating activities for young people in need.
- (5) Social guidance: Cultivate young people's good motivation and quality of interaction, improve young people's sense of cooperation and ability, communication and interaction skills and ability, and help young people with social interaction barriers to adjust their social relationships and help them integrate into society ^[2].

It can be seen that the mental health education of minors is urgent, and it is imperative to build a school-family-society mental health education community ^[3]. Psychological guidance plays an important role in solving adolescent problems. Most of the academic definitions of the concept of psychological guidance come from the narrow sense and the broad sense to distinguish. Psychological detachment, in the narrow sense, refers exclusively to psychotherapeutic techniques in medical institutions, which are used by professionally trained psychotherapists to detach and guide patients with psychological disorders. The broad sense of psychological guidance refers to the ideological and political workers' use of the theory and techniques of psychology to address people's psychological and ideological problems in order to promote the development of their personality in a coordinated and healthy direction ^[4]. Psychological counseling is an important treasure of education in the new era, which is a reference and development of "psychological counseling therapy" and represents the innovation and breakthrough of China's education methods. At the same time, psychological guidance can also play a great role in promoting students' learning so that students can obtain comprehensive

and healthy development [5]. Psychological detachment emphasizes the importance and attention to the spiritual as well as cultural needs of people in the process of education and teaching, with humanistic psychology and cognitive psychology as the basic theory [6].

3. Research on psychological facilitation in clinical teaching and learning

3.1. Data and methods

3.1.1. General information

- (1) The research team: It consists of 10 people, including the Head of the hospital’s Research and Teaching Management Section, who is the departmental project leader; the Head of the Preventive Health Care Section; one officer of the Nursing Department; three heads of clinical nurses; two heads of the clinical teaching team; one doctor of the Department of Psychosomatic Diseases; and one officer of the Research and Teaching Section. Three of them were certified as psychological counselors, one as a psychotherapist, and one as a social worker with a good theoretical foundation in psychological guidance. 9 of them had more than 5 years of rich clinical teaching experience, and one had rich experience in data collation.
- (2) Study subjects: 24 were randomly selected as the observation group and the remaining 24 as the control group from the 48 younger medical students who were interned in our hospital from March 1, 2023 to February 29, 2024. The 48 younger medical students were all medical majors of vocational high schools, of which 42 were from the same vocational high school and the other 6 were from the same vocational high school. The two groups’ age, gender and other information remained homogeneous ($p > 0.05$) and comparable, and the results are detailed in **Table 1**.

Table 1. Comparison of the homogeneity of age, gender and other data of underage medical students in the two groups

| Subjects | Place of residence | | Sex | | Age (years) | Average age (years) |
|--------------------------------|--------------------|-------|-------|--------|-------------|---------------------|
| | Rural | Urban | Male | Female | | |
| Control group ($n = 24$) | 16 | 8 | 7 | 17 | 16–17 | 16.42 ± 0.78 |
| Observation group ($n = 24$) | 17 | 7 | 6 | 18 | 16–17 | 16.38 ± 0.65 |
| t/c^2 | 0.097 | | 0.105 | | | 0.193 |
| P | 0.755 | | 0.745 | | | 0.848 |

3.1.2. Basic guarantees

This study is special psychological research conducted in full communication and obtained the active support of the school in order to ensure the smooth implementation of the study and the reliability of the results, together with the “Internship Tripartite Agreement” was carried out by the researcher and the school before this study. A clinical teaching meeting was organized and held in the hospital to communicate, train, discuss and reach a consensus on the purpose, significance, confidentiality of the study, evaluation criteria of the evaluation indexes, precautions, etc. The study informed the guardians of the observation group to obtain their informed consent and their active cooperation. The informed consent might affect the subjects’ answers to the questions, which might affect the accuracy of the results of the study. The study signed a research confidentiality agreement between the project leader and all the team members to protect the study’s confidentiality. The research project leader and all research team members signed a research confidentiality agreement to protect the confidentiality of the

research behavior and information. The research team completed an anonymous basic information survey of 48 younger medical students through a questionnaire before the beginning of the psychological counseling and the survey mainly included: age, origin, self-assessment of physical and mental health, and family information, i.e., whether or not they were the only child and self-assessment of their family's financial situation, which served as a base for reference for the present study. The study protocol, informed consent and researcher qualifications were submitted to the Ethics Committee of the hospital before the start of the study and were approved by the Ethics Committee for ethical review.

3.1.3. Research tools

- (1) Theoretical examination score sheet: It includes two parts of basic professional knowledge and specialized knowledge and adopts the percentage scoring system. Scoring criteria: 90–100 is excellent, 85–89 is good, 70–84 is moderate, 60–69 is passing, and less than 60 is failing. Excellent rate = $(\text{excellent} + \text{good}) / \text{total number of cases} \times 100\%$.
- (2) Skills assessment score sheet: It includes rescue skills and specialized skills in two parts, using the percentage scoring system. Scoring standard: 90–100 points for excellent, 85–89 points for good, 70–84 points for moderate, 60–69 points for passing, and 60 points or less for failing. Excellent rate = $(\text{excellent} + \text{good}) / \text{total number of cases} \times 100\%$.
- (3) Section performance evaluation scale: In this study, the section performance evaluation scale was compiled with reference to the Social and Emotional Health Scale ^[7] and the Chinese Middle School Students' Mental Health Scale, including the evaluation of the cognitive, emotional, and behavioral competencies of the underage medical students. The scale had a total of 20 questions and was scored on a 5-point scale (1 = almost never – 5 = almost always), and the total score was calculated after reversing the reverse questions. A percentage scoring system was used, and the scoring criteria: 90–100 is excellent, 85–89 is good, 70–84 is moderate, 60–69 is passing, and less than 60 is failing. Excellent rate = $(\text{excellent} + \text{good}) / \text{total number of cases} \times 100\%$.

3.1.4. Research method

The control group was taught clinically using traditional teaching methods. The observation group was randomly assigned to 8 psychological counseling teachers of the research team before entering the clinical internship. The psychological counseling teachers regularly conducted psychological counseling for the assigned medical students at least once a month, and timely psychological counseling was conducted when there were special circumstances until the end of the clinical internship. The content of the counseling includes the cognitive, behavioral and emotional aspects of the younger medical students. Methods of counseling: Listening and expressing understanding, problem orientation, positive psychological suggestion and affirmation, emotional release and control, analysis and reflection. Place of counseling: Choose a place that is safe, quiet and easy to gain a sense of trust, such as an independent office, lounge, café room, or wide and unoccupied outdoor area.

In case of emergency, psychological counseling by telephone is used to deal with critical incidents. Specific practices:

- (1) Before the medical students in the observation group enter the clinical department for the internship, the head of the research project randomly assigns the medical students in the observation group to the psychological guidance teacher and assists in getting to know each other; the psychological guidance teacher takes the initiative to care for the psychological guidance subject in time to establish a relationship of trust as soon as possible.

- (2) The psychological guidance teacher promptly understood the basic information of the psychological guidance subject's family background, growing up experience, learning situation, interests, outlook on life, worldview, values, and friendships. The basic information was verified through their guardians, school authorities and other medical students to ensure the reliability of the information underlying the study.
- (3) After entering the clinical department internship, the psychological guidance teacher follows up on the performance of the psychological guidance subject in the process of clinical internship and the mastery of theoretical knowledge and skill operation in a timely manner every month, combined with the self-evaluation and confidences of the psychological guidance subject. The teacher listens attentively and expresses her understanding of the other's inner feelings. In response to existing problems, the teacher guides the psychological counseling clients to find ways to solve their problems by asking questions, clarifying issues, challenging irrational ideas and applying analytical and reflective methods. At the same time, positive psychological hints and affirmations are also given to help them change their negative attitudes and emotions and get rid of them from negative emotions, and improve their problem-solving ability and flexibility of thinking ^[8]. When the psychological guidance object has large emotional fluctuations due to factors such as stress and anxiety, it is given companionship to encourage it to express its emotions to the fullest by talking, crying, and exercising, as well as to provide support and consolation, for example: For the same sex, you can hug or touch the shoulder, shake hands, provide a cup of warm boiled water and so on. At the same time, it is also necessary to help them learn methods of emotional control, such as relaxation training, deep breathing, etc. ^[9] Psychological guidance by telephone in case of emergencies, to listen and express understanding, positive psychological hints and affirmation, emotional release and control, and try to avoid more serious accidents. For the problems received from parents, the psychological counseling teacher promptly conducts one-on-one communication with parents and provides parents with appropriate educational knowledge, teaches parents how to understand their children's feelings and needs as well as to speak out their own, etc., to help parents better understand and support their children's psychological needs. Parents should try to be democratic and communicate with their children face-to-face to solve practical problems through equal dialogues ^[10]. If necessary, face-to-face communication is arranged between parents and children. Afterwards, track the effect of psychological guidance in due time, if the psychological guidance object is found to have serious psychological diseases timely transferred to the psychotherapist for psychological treatment.
- (4) The psychological counseling teacher records the counseling well for use in analyzing and evaluating the effects.
- (5) The data clerk completes the data collection and summarization on time every month and submits them to the research team. The research team holds regular seminars every month to analyze and discuss all kinds of problems in psychological counseling. In response to problems in teaching management and clinical teaching, the team organizes and holds teaching workshops to analyze the reasons and propose corrective measures.

3.1.5. Statistical methods

Using SPSS 26.0, continuous variables were described using mean \pm standard deviation (SD), *t*-test was used to compare groups. Categorical variables were compared between groups using chi-square test or Fisher's exact probability method. Differences were considered statistically significant at $P < 0.05$.

3.2. Results

The comparison of the theory scores of the two groups of underage medical students is shown in **Table 2**.

Table 2. Comparison of the theory scores of the two groups of underage medical students

| Subject | Average grade (points) | Excellent | Good | Moderate | Pass | Failing | Excellent rate |
|------------------------------------|------------------------|-----------|------|----------|------|---------|----------------|
| Control group (<i>n</i> = 24) | 84.46 ± 3.06 | 0 | 12 | 12 | 0 | 0 | 50.0% |
| Observation group (<i>n</i> = 24) | 86.97 ± 2.23 | 2 | 18 | 4 | 0 | 0 | 83.3% |
| <i>t/c²</i> | 3.248 | | | | | | 6.000 |
| <i>P</i> | 0.002 | | | | | | 0.014 |

The comparison of skills assessment scores of underage medical students in the two groups is shown in **Table 3**.

Table 3. Comparison of the two groups of underage medical students' skill scores

| Subject | Average grade (points) | Excellent | Good | Moderate | Pass | Failing | Excellent rate |
|------------------------------------|------------------------|-----------|------|----------|------|---------|----------------|
| Control group (<i>n</i> = 24) | 85.59 ± 1.98 | 0 | 15 | 9 | 0 | 0 | 62.5% |
| Observation group (<i>n</i> = 24) | 88.46 ± 2.29 | 4 | 17 | 3 | 0 | 0 | 87.5% |
| <i>t/c²</i> | 4.644 | | | | | | 4.000 |
| <i>P</i> | < 0.001 | | | | | | 0.046 |

The comparison of scores on the departmental performance evaluation scale between the two groups of underage medical students is shown in **Table 4**.

Table 4. Comparison of departmental performance evaluation scale scores of underage medical students in the two groups

| Subject | Average grade (points) | Excellent | Good | Moderate | Pass | Failing | Excellent Rate |
|------------------------------------|------------------------|-----------|------|----------|------|---------|----------------|
| Control group (<i>n</i> = 24) | 80.61 ± 5.86 | 0 | 9 | 13 | 2 | 0 | 37.5% |
| Observation group (<i>n</i> = 24) | 86.80 ± 5.22 | 6 | 10 | 8 | 0 | 0 | 66.7% |
| <i>t/c²</i> | 3.864 | | | | | | 4.090 |
| <i>P</i> | < 0.001 | | | | | | 0.043 |

4. Discussion

In this study, while conducting a one-on-one psychological counseling process for underage medical students, many problems existed in the teaching management and clinical teaching work of hospitals, in the teaching and education of schools and in the education of parents. In clinical teaching, there is a single form of teaching, the uncoordinated ratio of teaching teachers and students, a lack of teaching ability of some teaching teachers, and a lack of humanistic care in the hospital. In schools, there are problems such as loose management and emphasis on the teaching effect but not on students' physical and mental health care. Parents in the growth and education of their children have traditional education cognition, inappropriate education methods, lack of psychological counseling, indifference to the family environment, etc. ^[11].

The teaching work conference discusses and analyzes problems in teaching management and clinical

teaching work and corresponding corrective measures are proposed. The hospital has a management system that is not yet sound in teaching management and the incentive and assessment mechanism for teaching is not sound. The training and learning of clinical teaching personnel at all levels are insufficient and there is a lack of training on teaching standards. There are certain differences in the educational level of teaching teachers and there are certain limitations in the teaching teachers' knowledge structure. There are differences in the knowledge level, language expression, interpersonal and communication skills and teaching ability of the teaching teachers, and lack of attention to the physical and mental health of the students, especially the underage students. The above reasons are the main causes of many problems in clinical teaching. A series of corrective measures have been put forward to address the causes: Improving the teaching management system and mechanism, strengthening the teaching supervision, strengthening the teaching training of teaching teachers and reforming the clinical teaching mode. As a result of the above measures, the management concept of the teaching management department has been improved, and the management ability has been upgraded to a certain extent. The teaching concepts of clinical teaching teachers have been improved, and their humanistic care ability and teaching ability have also been effectively enhanced. Regarding the problems received from the school side, the research team timely and actively communicated with the school side, which indicated that it would work on the curriculum and optimize the mental health education counseling courses.

Besides, in terms of the teachers, strengthen the construction of a mental health education atmosphere so that more teachers recognize the importance of students' mental health, take the initiative to participate in students' mental health education, timely resolve the psychological distress faced by vocational high school students, shape a good personality, develop healthy living and behavioral habits, optimize the students' psychological state, and ultimately improve the student's learning efficiency ^[12]. The analysis of the problems received about the family aspect is that when a child has problems, most of them are related to family education in addition to the problems on the child's side. It is necessary to make fundamental changes in a child, to help the parents grow, and again to provide psychological counseling to the student in order to promote his/her psychological health ^[13]. After the help of the psychological counseling teacher, the parents' education concept and education ability have been effectively improved and enhanced and the parent-child relationship has been significantly improved. The continuous improvement of the hospital, the school and the family formed a synergy to enhance the clinical teaching effect of the minor medical students. Statistical analysis showed that the level of clinical professional theoretical knowledge, skill level, cognitive level, behavioral ability and emotional management ability of medical students in the observation group were significantly better than those in the control group. At the same time, comparing the content of the monthly psychological counseling records of the psychological counseling teachers with the evaluation scale of the clinical teaching teachers' evaluation of the same month's departmental performance of the medical students in the observation group, the psychological counseling teachers and the clinical teaching teachers had a high degree of consistency in evaluating the subjects of psychological counseling.

5. Conclusion

In summary, these effects of complementary teaching and learning indicate that psychological guidance has a simultaneous promotion effect on improving the comprehensive quality of underage medical students and their clinical teaching ability. This is conducive to improving the quality of clinical teaching and is a clinical teaching model worth promoting.

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Disclosure statement

The authors declare no conflict of interest.

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